Phillips 66
San Francisco Refinery
1380 San Pablo Avenue
Rodeo, CA 94572

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ESDR-226-13
03-MT-02-A

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Brian Lusher
BAAQMD
939 Ellis Street
San Francisco, CA 94109

Subject: Revision of Permit Condition 4336 Part 7
Phillips 66 Company, Rodeo Refinery, Facility #A0016

Mr. Lusher:

This application is a request to the Bay Area Air Quality Management District (BAAQMD) for a revision to the Major Facility Review (Title V) Permit issued to the Phillips 66 Company – San Francisco Refinery (Facility #A0016) to increase the limit contained in Permit Condition 4336 Part 7 (PC 4336-7) from 51,182 barrels per day (bbl/day) to 100,182 bbl/day on a 12-month rolling average basis.

Phillips 66 will pay all necessary permitting fees after a final invoice is received from the BAAQMD.

If you have any questions, please contact Brent Eastep at (510) 245-4672.

Sincerely,

Don Bristol
Environmental Superintendent

Attachment

Application for Authority to Construct
and Minor Modification to Major Facility Review Permit
Revision of Permit Condition 4336 Part 7
Phillips 66 San Francisco Refinery, Facility A0016

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INTRODUCTION

This application is a request to the Bay Area Air Quality Management District (BAAQMD) for an Authority to Construct and Minor Modification to the Major Facility Review (Title V) Permit issued to Phillips 66 Company – San Francisco Refinery (Facility #A0016). Permit Condition 4336 Part 7 (PC 4336-7) limits the amount of crude and gas oil that can be delivered to the refinery by tanker, ship or barge at the refinery's Marine Terminal. Phillips 66 is requesting an increase in the Marine Terminal (S425, S426) off-loading limit contained in PC 4336-7 by 49,000 barrels per day (bbl/d), from 51,182 bbl/day to 100,182 bbl/day on a 12-month rolling average basis. In addition, Phillips 66 is requesting that the limit on the number of ships and tankers that can deliver crude or gas oil be increased by 55 from 59 to 114 tankers or ships on a 12-month rolling average basis.

The refinery processes crude oil from central California received by pipeline and from a variety of domestic and foreign crude sources delivered by ship at the Marine Terminal. The proposed increase in the Marine Terminal off-loading limit would provide the facility with flexibility to process higher rates of waterborne crude and gas oil (replacing roughly equivalent volumes of pipeline crudes with waterborne crudes). Phillips 66 is not requesting any increases or modifications to currently permitted throughput or emissions limits at the refinery as a whole or at any downstream process units. No physical modifications are necessary for any existing process units or storage tanks. The proposed permit modification will not change or otherwise affect the types of crude oil that the refinery can process currently.

No modifications to refinery storage tank permit limits for throughput and/or emissions are requested in this application

DESCRIPTION OF AFFECTED SOURCES

This proposed project would increase the off-loading limit on crude and gas oil imports at the Marine Terminal by 49,000 bbl/d and 55 tanker or ship deliveries.

The increase in crude and gas oil volume would require an additional 55 marine tanker/ship trips a year to the Marine Terminal. The vessels would be accompanied by tugboats during the trip to and from the Marine Terminal.

The crude and gas oil delivered at the Marine Terminal are discharged from the vessels to the storage tanks at the refinery. The majority of the crude oil would be delivered to Tank

100 (S97), Tank 107 (S334), Tank 108 (S340) and Tank 109 (S439). Tank 100 is the main tank, which receives crude from the Marine Terminal. Tanks 107, 108 and 109 receive crude transferred from Tank 100 or directly from the vessels at the Marine Terminal. Tanks 107, 108 and 109 are then used to transfer crude to Tank 155 (S110) and Tank 156 (S111). Tanks 155 and 156 are the Unit 267 (S350) and Unit 200 (S300) crude unit feed tanks, respectively. Tanks 155 and 156 receive crude from both the Marine Terminal and the pipeline to provide feed for the crude units.

Gas oil, which is a Regulation 8-5 exempt material, received at the Marine Terminal would normally be delivered to Tank 280 (S173) and Tank 281 (S174). In certain situations, the gas oil could be transferred to other tanks, as necessary. Tanks 280 and 281 are fixed-roof, natural gas-blanketed tanks that are controlled by the vapor recovery system (A7). These tanks are used to feed the Unit 246 Hydrocracker (S434).

None of the crude or gas oil storage tanks will require an increase in permitted throughput limits as a result of the proposed increase in crude or gas oil delivered via the Marine Terminal.

All process units that would receive crude or gas oil delivered via the Marine Terminal currently have throughput limits in the Title V Permit. The proposed increase to the off-loading limit at the Marine Terminal will not require any increase in existing throughput limits at any downstream process unit.

Crude Units 200 and 267 can process a variety of crude oil types. Unit 200 typically processes a heavy crude oil from the San Joaquin Valley. Unit 267 typically processes a crude blend from California, Alaska and a variety of foreign sources. The current processing ability of these units will not be modified by this permit application as no physical facilities or permit changes for these units are being made.

This application requests changes to the crude and gas oil throughput limit only for the Marine Terminal. No changes are requested for any other emission source at the refinery, and no other refinery sources are "modified" in connection with this application.

In particular, the refinery fuel gas system and sources burning refinery fuel gas are neither "modified" nor "altered." District Regulation 2-1-234.2 defines a "modified source" as "any existing source that undergoes a physical change, change in method of operation, increase in throughput or production, or addition and that results or may … increase emissions of any pollutant above levels contained in a permit condition in any current permit to operate or major facility review permit". The fuel gas system and associated heaters are entirely separate from the Marine Terminal and are unaffected by changes in throughput as total refinery throughput is unchanged. The refinery has numerous existing SO_2 related limits on specific combustion sources, such as the fuel gas system and associated heaters, and a refinery-wide SO_2 cap established in an NSR permit in 1988. No changes are being requested to allow an emission increase above these existing permit limits. Therefore, the fuel gas system and associated heaters are not being "modified" as that term is used in District Regulation 2-1-234.2.

Moreover, neither the fuel gas system nor refinery process units would be "altered" by any change in crude slate that may result from the requested Marine Terminal throughput increase. District Regulation 2-1-233 defines "alter" as a physical change or change in the method of operation "which may affect emissions." However, a "change in process stream composition is not an alteration if the source's description in the permit and permit conditions allow for the change in process stream composition, and the change does not increase emissions beyond permitted levels." Crude oil is a mixture of hydrocarbons that, by definition, is variable. No two crude oils are exactly the same, and even those that come from the same region or field can and will vary. The refinery has historically processed a variety of crudes, arriving via pipeline or the Marine Terminal, that meet the design requirements of the processing units. The Rodeo Refinery does not have any limits or restrictions on the characteristics of the crude oil processed at the refinery (i.e., the "process stream") other than the Unit 267 sulfur limit described below, and all emissions will remain within permitted levels. The crude processing Unit 267 has a sulfur limit in the crude processed at that unit of 1.5 wt %. This limit will still be in the permit and will not be affected by the permit application. Although a larger proportion of the crudes may be waterborne as a result of the proposed project, the variety of crudes processed will still meet the limitation and design criteria of the equipment currently present at the refinery. No physical modifications will be made to any process units as part of this project. Therefore, the fuel gas system and associated heaters are not being "altered" as that term is used in District Regulation 2-1-233.

Finally, as shown in Figure 1, monthly values of the sulfur content in refinery fuel gas and crude from 2004 through August, 2011 demonstrate that there is no correlation between fuel gas sulfur content and the sulfur content in the crude oil.

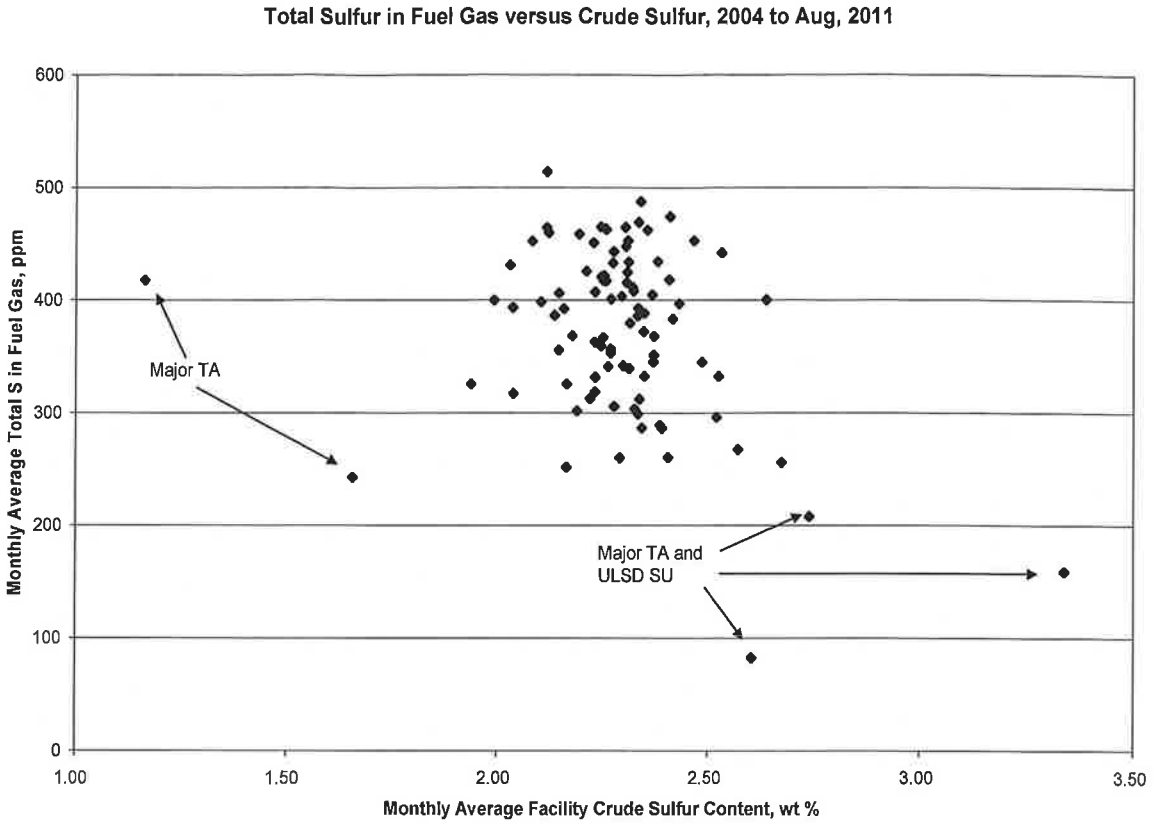

Figure 1.

ESTIMATED EMISSIONS

Emission changes from this proposal would result from an increase in the number of marine vessels and associated tug boats when at the wharf, and an increase in the number of marine vessels in transit in BAAQMD waters. As discussed in the applicable requirements section, emissions from the marine vessels and associated tug boats are not subject to District BACT requirements and are not included when determining PSD applicability. Phillips 66 will submit a detailed emissions estimate in a separate submittal.

APPLICABLE REQUIREMENTS

Prior to issuing an ATC or PTO, the BAAQMD must determine if a proposed project complies with BAAQMD, state, and federal requirements. This section discusses key requirements that apply to the proposed project.

Best Available Control Technology (BACT)

BACT requirements specified in Regulation 2-2 (New Source Review) apply to sources that have the potential to emit 10 pounds per highest day or more on a pollutant by pollutant basis.

Vessels are mobile sources that are not subject to the District's BACT requirement. See Rule 2-2-206. BACT for marine vessels is not included in the District's BACT/TBACT Workbook, U.S. EPA's RBLC website or the ARB's BACT Clearinghouse. All vessels entering California State waters must comply with fuel sulfur limits and all applicable maritime requirements.

Emission Offsets

As required by Regulation 2-2, offsets will be provided for the emissions increases estimated for this project. Offsets will be provided at the ratio required by Regulation 2-2.

Prevention of Significant Deterioration (PSD)

The proposed project is exempt from the PSD requirements in Regulation 2-2. Per Regulation 2-2-215, the emissions from the marine vessels are not included when determining applicability with the PSD emission thresholds. The only emission increases are from the marine vessels, therefore PSD is not applicable because the emission increase is zero.

As described above, the fuel gas system and associated heaters are sources separate from the Marine Terminal. The refinery has a number of existing SO_2 related limits on specific combustion sources, such as the fuel gas system and associated heaters, and a refinery-wide SO_2 cap established in an NSR permit in 1988. No changes are being requested to allow an emission increase above these existing permit limits. The fuel gas system and associated heaters are not being "modified" as that term is used in District Regulation 2-1-234.2 and, therefore, do not meet the Major Modification definition in Regulation 2-2-221.

California Environmental Quality Act (CEQA) Review

The proposed project is not ministerial, nor does it qualify for any categorical exemption from CEQA. Because no other discretionary permits are required for this project, the BAAQMD will be the Lead Agency under CEQA.

Phillips 66 will submit a CEQA Applicability document in a separate submittal which the BAAQMD can use as the basis for an Initial Study for CEQA.

New Source Review of Toxic Air Contaminants (TACs)

Regulation 2 Rule 5 requires a health risk screening analysis (HRSA) for any project that exceeds the toxic trigger levels in Regulation 2-5. Although emission estimates have not been finalized, it is likely that an HRSA will be required. Phillips 66 will submit a completed HRSA to the BAAQMD in a separate submittal.

Major Facility Review (Title V) Permit

Phillips 66 requests that this application be processed as a minor modification to the Title V permit as defined in Regulation 2-6. The proposed project does not meet any of the criteria for a significant permit revision in Regulation 2-6-226. It is not considered a major modification under any federal rules listed in Regulation 2-6-226.1 or 226.2 and does not relax or change any monitoring, reporting or recordkeeping.